

1 VQE results Aer Estimator (No Shots)

(Full Hamiltonian)				Double Well	$\Lambda = 8$	COYBLA Max 10K Iterations			
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	Δ_{min}	VQE median E.	Δ_{median}	Exact	Time
RA r1 rl	1e-01	100/100	63	9.2852e-01	4.3935e-02	1.0941e+00	2.0949e-01	8.8458044387e-01	00h 00m 20s
RA r1 rl	1e-02	100/100	227	8.9354e-01	8.9597e-03	9.0897e-01	2.4392e-02	-	00h 01m 13s
RA r1 rl	1e-03	100/100	526	8.922e-01	7.621e-03	8.9375e-01	9.1679e-03	-	00h 02m 54s
RA r1 rl	1e-04	96/100	1141	8.9219e-01	7.6104e-03	8.9952e-01	1.494e-02	-	00h 09m 19s
RA r1 rl	1e-05	76/100	1472	8.9218e-01	7.6003e-03	9.0549e-01	2.0905e-02	-	00h 15m 44s
RA r1 rl	1e-06	65/100	1770	8.9341e-01	8.8329e-03	8.9342e-01	8.8414e-03	-	00h 17m 51s
RA r1 rl	1e-07	55/100	2483	8.9342e-01	8.841e-03	9.0549e-01	2.0905e-02	-	00h 22m 35s
RA r1 rl	1e-08	53/100	2708	8.9342e-01	8.841e-03	9.0549e-01	2.0905e-02	-	00h 24m 35s
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	Δ_{min}	VQE median E.	Δ_{median}	Exact	Time

Table 1